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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,742	03/29/2004	Thomas Randall Hudson JR.	RSW920030265US1	1695

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DUKE W. YEE
YEE & ASSOCIATES, P.C.
P.O. BOX 802333
DALLAS, TX 75380

EXAMINER	
CHU, DAVID H	

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/811,742	HUDSON, THOMAS RANDALL	
	Examiner	Art Unit	
	David H. Chu	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 18-20* is/are rejected.

7)☒ Claim(s) *14-17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the reference numbers 518 and 520 on page 19 (line 12-13) refer to different steps from what is recited. It is suggested that the reference number to be changed to 520 and 522 respectively. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Wallace U.S. Patent No. 5,978,588.

4. Note with respect to claim 1, Wallace discloses a Method, Computer Program (Claim 2 of Wallace) and a Computer system comprising of a processor and memory (col. 3, line 27-35) that divides a source program into blocks and generates a control flow graph and a data flow graph. The invention then identifies strongly connected components of the data flow graph and recursively breaks it down to yield a plurality of directed acyclic graphs (col. 4, line 61-64) to, eventually, generate object code for the blocks. During the process of creating the plurality of graphs, Wallace teaches the use of an algorithm that repeats recursively on the nodes to find the strongly connected components (col. 5, line 16-18). Once the strongly connected components are determined and having decomposed the data flow graph into data flow graphs that are also directed acyclic graphs, Wallace further teaches the creation of a set of value equivalent nodes by examining each resulted graph. The set of value equivalent nodes is used to form another set for a control flow graph that corresponds to the current data flow graphs (directed acyclic graphs) (col. 6, line 15-17).

5. The process of breaking down the graph to yield a plurality of graphs is the equivalent of "dividing the graph into a plurality of graph partitions" as recited by the applicant. Further, the recursive process in search of strongly connected components is the equivalent of "evaluating a plurality of graph nodes" and "recursively" evaluating them as recited by the applicant. Further, the set for the control flow graph, which is generated by evaluating the data flow graph nodes, is the equivalent of the "node order subset" recited by the applicant.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2-13 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace U.S. Patent No. 5,978,588.

8. Note with respect to claims 2-8, 18 and 19, Wallace appends a designation to a node as shown in FIG. 8(b) as recited in claims 2 and 4 of the applicant. The difference between the patented claims and the claims in 2-8, 18 and 19 in this application are that the applicant recites the method of "identifying" and "removing" the "sink" and "source" nodes "repeatedly." The applicant further recites the identifying of "plurality" or "at least

two" of "top-level sub-graph nodes." It, would have been obvious to one of an ordinary skill of the art to manipulate graph nodes and top-level sub-graph nodes, as claimed, because the Wallace teaches that it is known in the art to designate nodes such that the removal of a node or the identifying of a plurality of certain nodes would have been an obvious difference, absent unexpected results.

9. Note with respect to claims 9-12, 20, the difference between the patented claims and the claims in 9-12, 20 in this application are that the applicant recites the use of a computer program that "concatenate" and "append" the different subsets and generate a "node order set." It would have been obvious to one of an ordinary skill of the art to concatenate and append the different subset in varied combinations in Wallace's system, because to concatenate and append the subsets as claimed is an obvious difference in generating graphs, as described in paragraph 4 above, from a number of sets.

10. Note with respect to claim 13, the difference between the patented claims and the claims in 13 in this application is that the applicant recites the use of a computer program that "concatenate" and "append" the different subsets and generate a "node order set." It would have been obvious to one of an ordinary skill of the art to associate sequence numbers to the nodes in Wallace's system, because Wallace teaches designating nodes such that sequence numbers could be assigned.

Allowable Subject Matter

11. Claims 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Wu et al. teaches the recursive evaluation of graph nodes.

13. Breitbart et al. teaches the removal of sink nodes and the appending of designations to nodes.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Chu whose telephone number is (571) 272-8079. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DHC

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600